

WHAT IS CLAIMED IS:

1. A signature authenticating apparatus comprising:  
signature data storing means for storing registered  
signature data used for signature authentication;  
authentication determining means for calculating an  
evaluation value by comparing entered signature data with  
the registered signature data stored in said signature data  
storing means, and determining whether or not authentication  
is successful by on the basis of the calculated evaluation  
value; and  
aging determining means for determining whether or not  
aging of the registered signature data has occurred on the  
basis of the evaluation value calculated by said  
authentication determining means.

2. A signature authenticating apparatus according to  
claim 1, further comprising:  
data list storing means for storing evaluation values  
calculated in the past, together with dates, as a data list;  
and  
adding means for adding the evaluation value calculated  
by said authentication determining means to said data list;  
wherein said aging determining means determines whether  
or not aging has occurred on the basis of the data list

after the calculated evaluation value is added to the data list.

3. A signature authenticating apparatus according to claim 1, wherein said aging determining means determines whether aging has occurred when the authentication by said authentication determining means is successful.

4. A signature authenticating apparatus according to claim 1, further comprising requesting means which, when aging is determined to have occurred by said aging determining means, requests re-registration of said registered signature data.

5. A signature authenticating apparatus according to claim 1, further comprising warning output means which, when aging is determined to have occurred by said aging determining means, issues a warning message.

6. A signature authenticating apparatus according to claim 1, wherein said aging determining means determines aging to have occurred when a result of a calculation calculated on the basis of said evaluation value is over a prescribed criterion.

7. A signature authenticating apparatus according to claim 2, wherein said aging determining means calculates an estimated evaluation value for the next run of a signature authentication process, on the basis of said data list, and determines aging to have occurred when said estimated evaluation value is over a prescribed criterion.

8. A signature authenticating apparatus according to claim 7, wherein a projected date on which the next run of a signature authentication process will be carried out is determined on the basis of the dates stored as said data list.

9. A signature authenticating apparatus according to claim 1, wherein said aging determining means determines whether or not a prescribed period of time has elapsed since storage of said registered signature data in said signature data storing means, and when said prescribed period of time is determined to have elapsed, determines aging to have occurred.

10. A signature authenticating apparatus according to claim 2, wherein said aging determining means calculates a period of time elapsed since the last determination of a successful authentication to a current determination of a

successful authentication, and when said period of time is determined to be over a prescribed period of time, determines aging to have occurred.

11. A signature authenticating apparatus according to claim 2, wherein said aging determining means calculates a number of runs in which an evaluation value corresponds to a failed authentication, and when said number of runs is over a prescribed number of runs, determines aging to have occurred.

12. A signature authenticating apparatus according to claim 2, wherein said aging determining means calculates a number of times of addition of evaluation values representing failed authentications to the data list within a prescribed period, and when said number of times is over a prescribed number of times, determines aging to have occurred.

13. A signature authenticating apparatus according to claim 2, wherein said aging determining means calculates a rate of change in a number of stored evaluation values representing cases of failed authentication, from dates and evaluation values representing failed authentications on the basis of said data list, and when said rate of change is

over a prescribed value, said aging determining means determines aging to have occurred.

14. A signature authenticating apparatus according to claim 1, wherein:

signature data stored in said signature data storing means include initial signature data initially registered and last signature data determined to be successful in the last authentication;

said authentication determining means compares said entered signature data with said initial signature data and said last signature data to calculate respective evaluation values, thereby determining whether or not the current run is a successful authentication; and

said aging determining means determines whether or not aging has occurred on the basis of evaluation values calculated from comparison of said entered signature data with said initial signature data.

15. A signature authenticating apparatus according to claim 1, wherein said entered data are transmitted from a client via a network.

16. A signature authenticating method comprising:  
an authentication determining step of calculating an

evaluation value by comparing entered signature data with registered signature data stored in signature data storing means, and determining whether or not authentication is successful on the basis of the calculated evaluation value; and

an aging determining step of determining whether or not aging of the registered signature data has occurred on the basis of the evaluation value calculated in said authentication determining step.

17. A signature authenticating method according to claim 16, further comprising:

a data list storing step of storing evaluation values calculated in the past, together with dates thereof, as a data list in data list storing means; and

an adding step of adding the evaluation value calculated in said authentication determining step to said data list;

wherein, in said aging determining step, it is determined whether or not aging has occurred on the basis of the data list after adding a current evaluation value to the data list.

18. A signature authenticating method according to claim 16, wherein said aging determining step determines

whether or not aging has occurred when the authentication in said authentication determining step is successful.

19. A signature authenticating method according to claim 16, further comprising a requesting step of requesting, when aging is determined to have occurred in said aging determining step, re-registration of said registered signature data.

20. A signature authenticating method according to claim 16, further comprising a warning issuing step of issuing a warning message when aging is determined to have occurred in said aging determining step.

21. A signature authenticating method according to claim 16, wherein, in said aging determining step, aging is determined to have occurred when the result of a calculation made on the basis of said evaluation data is over a prescribed criterion.

22. A signature authenticating method according to claim 17, wherein, in said aging determining step, aging is determined to have occurred when an evaluation value predicted for the next run of a signature authentication process, calculated on the basis of said data list, is over

a prescribed criterion.

23. A signature authenticating method according to claim 22, wherein a projected date on which the next signature authentication process is expected to be performed is determined on the basis of the dates stored in said data list.

24. A signature authenticating method according to claim 16, wherein, in said aging determining step, it is determined whether or not a prescribed period of time has elapsed since storage of said registered signature data in said signature data storing step, and when said prescribed period of time is determined to have elapsed, aging is determined to have occurred.

25. A signature authenticating method according to claim 17, wherein, in said aging determining step, a time lapse from the last determination of successful authentication until a current determination of successful authentication is calculated on the basis of said data list, and when said time lapse is determined to be over a prescribed period of time, aging is determined to have occurred.



26. A signature authenticating method according to claim 17, wherein, in said aging determining step, the number of times of addition, to the data list, of evaluation values corresponding to failed authentications is calculated on the basis of said data list, and aging is determined to have occurred when said number of times is over a prescribed number of times.

27. A signature authenticating method according to claim 17, wherein, in said aging determining step, the number of times of addition, to the data list, of evaluation values corresponding to failed authentications within a prescribed period of time to the data list is calculated on the basis of the data list, and aging is determined to have occurred when said number of times is over a prescribed number of times.

28. A signature authenticating method according to claim 17, wherein, in said aging determining step, the rate of change in the number of failed authentications is calculated from dates and evaluation values representing failed authentications on the basis of said data list, and aging is determined to have occurred when said rate of change is over a prescribed threshold value.

29. A signature authenticating method according to claim 16, wherein the signature data stored in said signature data storing means include initially registered initial signature data and the last signature data determined to represent a successful authentication in the last authentication; and

in said aging determining step, it is determined whether or not aging has occurred on the basis of the evaluation value calculated from comparing said entered signature data with said initial signature data.

30. A signature authenticating method according to claim 16, wherein said entered signature data are transmitted from a client via a network.

31. A signature authenticating program for a computer comprising:

an authentication determining step of calculating an evaluation value by comparing entered signature data with registered signature data stored in signature data storing means, and determining whether or not authentication is successful on the basis of the calculated evaluation value; and

an aging determining step of determining whether or not aging of the registered signature data has occurred on the

basis of the evaluation value calculated in said authentication determining step.

32. A signature authenticating program according to claim 31 further comprising:

a data list storing step of storing evaluation values calculated in the past, together with dates thereof, as data list in data list storing means; and

an adding step of adding the evaluation value calculated in said authentication determining step to said data list;

wherein, in said aging determining step, it is determined whether or not aging has occurred on the basis of the data list after adding a current evaluation value to the data list.

33. A signature authenticating program according to claim 31, wherein said aging determining step determines whether or not aging has occurred when the authentication in said authentication determining step is successful.

34. A signature authenticating program according to claim 31, further comprising a requesting step of requesting, when aging is determined to have occurred in said aging determining step, re-registration of said registered

signature data.

35. A signature authenticating program according to claim 31, further comprising a warning issuing step of issuing a warning message when aging is determined to have occurred in said aging determining step.

36. A signature authenticating program according to claim 31, wherein, in said aging determining step, aging is determined to have occurred when the result of a calculation made on the basis of said evaluation data is over a prescribed criterion.

37. A signature authenticating program according to claim 32, wherein, in said aging determining step, aging is determined to have occurred when an evaluation value predicted for the next run of a signature authentication process, calculated on the basis of said data list, is over a prescribed criterion.

38. A signature authenticating program according to claim 37, wherein a projected date on which the next signature authentication process is expected to be performed is determined on the basis of the dates stored in said data list.

39. A signature authenticating program according to claim 31, wherein, in said aging determining step, it is determined whether or not a prescribed period of time has elapsed since storage of said registered signature data in said signature data storing step, and when said prescribed period of time is determined to have elapsed, aging is determined to have occurred.

40. A signature authenticating program according to claim 32, wherein, in said aging determining step, a time lapse from the last determination of successful authentication until a current determination of successful authentication is calculated on the basis of said data list, and when said time lapse is determined to be over a prescribed period of time, aging is determined to have occurred.

41. A signature authenticating program according to claim 32, wherein, in said aging determining step, the number of times of addition, to the data list, of evaluation values corresponding to failed authentication is calculated on the basis of said data list, and aging is determined to have occurred when said number of times is over a prescribed number of times.

42. A signature authenticating program according to claim 32, wherein, in said aging determining step, the number of times of addition, to the data list, of evaluation values corresponding to failed authentications within a prescribed period of time to the data list is calculated, and aging is determined to have occurred when said number of times is over a prescribed number of times.

43. A signature authenticating program according to claim 32, wherein, in said aging determining step, rate of change in the number of failed authentications is calculated from dates and evaluation values representing failed authentications of the basis of said data list, and aging is determined to have occurred when said rate of change is over a prescribed threshold value.

44. A signature authenticating program according to claim 31, wherein the signature data stored in said signature data storing means include initially registered initial signature data and the last signature data determined to represent a successful authentication in the last authentication; and

in said aging determining step, it is determined whether or not aging has occurred on the basis of the

evaluation value calculated from comparing said entered signature data with said initial signature data.

45. A signature authenticating program according to claim 31, wherein said entered signature data are transmitted from a client via a network.

46. A storage medium storing the software codes for a computer to execute steps claimed in claim 31.